

**CORVALLIS FIRE DEPARTMENT  
DEPARTMENTAL OPERATING GUIDELINES**

D.O.G. 11.2.10  
DATE: 05/25/1999  
REV: 07/30/2003

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**FIRE FLOW REDUCTIONS FOR SPRINKLERED BUILDINGS**

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**PURPOSE**

To establish the appropriate level of reduction to fire flow requirements based on a completely sprinklered building protected by a fully electrically-supervised sprinkler system. The scope of this guideline does not apply to one- and two-family dwellings.

**BACKGROUND**

The State Fire and Building Codes require a minimum fire-flow, (ie: flow rate of water supply), be established for all new construction. The fire-flow requirements are determined by the size, construction type and occupancy hazard of the building. Both state codes allow for "up to" 75% reduction in fire-flow requirements when the building is fully sprinklered and electrically supervised. Clear criteria needs to be established to assist design professionals and plan review staff.

**APPLICABLE CODES**

**Oregon Uniform Fire Code (OUFC), Appendix III-A, as amended by City Municipal Code Section 7.08.180, Sec. 5.3.; and**

**Oregon Structural Specialty Code (OSSC), Appendix Chapter 9, Division II - Section 912.3 Fire-flow Reductions.**

Both sections read as follows:

The required fire flow may be reduced by one of the following options, but in no case to less than 1,500 gallons per minute (5678 L/m) at 20 psi (137.9 kPa) residual:

1. Up to seventy-five (75) percent where a complete approved automatic fire-extinguishing system meeting the requirements of Chapter 9 is installed throughout the building and the system is fully and electrically supervised in accordance with Section 904.3.
2. Fifty (50) percent where a complete automatic fire extinguishing system meeting the requirements of Chapter 9 is installed throughout the building and not monitored per Section 904.3 OSSC; or
3. Twenty-five (25) percent where a complete automatic and manual fire alarm system is installed in accordance with approved central, proprietary, or remote station service or local alarm which gives audible and visual signals at a constantly attended location.

**DESIGN CRITERIA**

The full 75 percent reduction allowed by the OUFC and the OSSC will be granted by the chief and the building official in all cases where buildings are completely protected by an approved fire-extinguishing system, fully and electrically supervised, in accordance with the requirements of Chapter 9 and Standard 9-1 of the OSSC.

In order to qualify for the full 75 percent reduction, all buildings of undetermined use at time building permit is issued shall be protected by a sprinkler system designed and installed with a sprinkler density of not less than that required for an Ordinary Hazard Group 2 use with a minimum design area of 3,000 square feet.

The owner / occupant of the structure shall ensure that the storage or processes contained within the building not exceed the design parameters of the installed sprinkler system.

The total fire sprinkler system demand, including the hose demand, is to be added to the minimum flow rate calculated for the structure to identify the total required flow rate (Ref: UFC Code Application Manual, Appendix IIIA, Section 4.2).

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Dan Campbell, Fire Chief

***Next scheduled review: May, 2006***